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## Self-Reported Psychopathy: A Validation Study

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Two studies are reported examining the reliability and validity of Levenson's Self-Report Psychopathy Scale (LSRP; Levenson, Kiehl, & Fitzpatrick, 1995) in a noninstitutionalized population. The first study used 1,958 undergraduates to examine the factor structure of the LSRP and its relation to serious antisocial behavior and common dimensions of personality. The second study ( $n = 70$ ) included performance tasks known to discriminate psychopathic from nonpsychopathic prisoners. Results of the studies support the reliability and validity of the LSRP. The 2-factor structure of the inventory was strongly replicated in a series of confirmatory factor analyses. Predicted relations were observed between the LSRP and other self-report instruments of delinquency. In addition, the factors of the LSRP demonstrated the predicted divergent relations to traditional personality traits. Finally, psychopathic undergraduates showed deficits in response modulation similar to those observed in incarcerated psychopaths. Implications for psychopathy in general are also discussed.

Psychopathy, as initially described by Cleckley (1941/1988), is a form of personality disorder. The psychopathic individual is hot-headed; cold-hearted; impulsive; irresponsible; selfish; emotionally shallow; manipulative; and lacking in empathy, anxiety, and remorse. Given this description, it is not surprising that psychopathic offenders are among the most prolific and violent of criminals, committing a wider variety of crimes as well as more crimes of any given kind than the average criminal offender (Hare, 1981; Hare & Jutai, 1983; Hare & McPherson, 1984; Hare, McPherson, & Forth, 1988; Kosson, Smith, & Newman, 1990; Wong, 1984). In addition, psychopathic offenders are more violent (Hare, 1981; Hare & McPherson, 1984; Kosson et al., 1990; Rice, Harris, & Quinsey, 1990; Serin, 1991; Wong, 1984) and are consistently found to have higher recidivism rates than other criminals (e.g., Hart, Kropp, & Hare, 1988; Ogloff, Wong, & Greenwood, 1990; Serin, Peters, & Barbaree, 1990).

Many researchers (Hare, 1991; Harpur, Hakstian, & Hare, 1988; Harpur, Hare, & Hakstian, 1989; Karpman, 1948) have conceptualized psychopathy as consisting of two distinct, but related factors. Karpman (1948) differentiated between primary and secondary psychopathy. He postulated that primary psychopathy described the “true” psychopath, which included individuals who exhibited the characteristic personality traits of callousness, manipulateness, glibness, and lack of anxiety and remorse. In contrast, secondary psychopathy focused on behavioral manifestations of psychopathy, which included antisocial acts committed under elevated levels of distress. More recently, Hare and colleagues (Hare, 1991; Harpur et al., 1988; Harpur et al., 1989) have described psychopathy as consisting of two factors, one reflecting the core personality traits of psychopathy and the other reflecting a deviant lifestyle, similar to the criteria for antisocial personality disorder (American Psychiatric Association [APA], 1994). Although these two factors are correlated, typically around .50 (Hare et al., 1990), Harpur et al. (1989) found that they displayed differential relations with external correlates. Specifically, they found that Factor 1 scores were more strongly related than Factor 2 scores to global psychopathy ratings, diagnoses of narcissistic personality disorder (APA, 1994), and interpersonal dominance. Conversely, they found Factor 2 scores to be more strongly related than Factor 1 scores to diagnoses of antisocial personality disorder, mental capabilities, and the Psychopathic Deviate and Mania scales of the Minnesota Multiphasic Personality Inventory (MMPI; Dahlstrom & Welsh, 1960). In addition, these authors discovered that anxiety was negatively related to Factor 1 but moderately positively related to Factor 2.

The most reliable and valid means of assessing psychopathy and its two components is the Hare Psychopathy Checklist–Revised (PCL–R; Hare, 1991), which consists of a lengthy interview and file review that assesses both the personality and behavioral dimensions of personality associated with Hare’s two-factor theory. Although there exists a wealth of data to support the reliability and validity of the PCL–R (Hare, 1991; Hare et al., 1990; Harpur et al., 1988; Harpur et al., 1989; Hart et al., 1988; Kosson et al., 1990), the majority of studies have been conducted with institutionalized samples and have involved incarcerated, older populations. This population has the advantages of being accessible, having detailed life history records, and including many individuals likely to be high on psychopathy. Unfortunately, in studies of incarcerated populations, psychopathy is necessarily confounded with criminality, effects of years of drug and alcohol abuse, lost opportunities, and multiple incarcerations (Hare, 1984; Shanok & Lewis, 1981). Thus, differences between psychopathic offenders and nonpsychopathic offenders cannot be unambiguously interpreted.

In an effort to disentangle psychopathy from the cumulative negative effects of an antisocial lifestyle, there has been a renewed interest in the concept of “successful” or “subclinical” psychopathy (Lilienfeld, 1994; Widom, 1977). Successful psychopaths are theorized to be individuals with psychopathic personality configurations but without the typical history of arrest and incarceration; by definition,

successful psychopaths cannot be studied in prisons. Because they are not in institutions, studying these individuals may provide an opportunity to observe the development of the disorder before it has had an opportunity to destroy its host. Additionally, this research may allow the identification of traits and circumstances that may protect against the development of severe antisocial behavior.

However, the main difficulties in studying noninstitutionalized psychopaths remain assessment and recruitment (Widom, 1977). To study noninstitutionalized psychopaths requires assessing large numbers of individuals to identify a small sample who are highly psychopathic but not severely antisocial. The kind of information required by the PCL-R (e.g., lengthy interview and file review) is not easily gathered from persons outside of institutions. In recognition of this difficulty, Hart, Cox, and Hare (1995) developed a screening version of the PCL-R, the Psychopathy Checklist-Revised: Screening Version (PCL-R:SV), for use in nonforensic populations. Although existing studies of the PCL-R:SV are promising (Forth, Brown, Hart, & Hare, 1996; Hart et al., 1995), the PCL-R:SV still requires a 30- to 60-min interview with the participant, as well as an interview with a collateral source, making the screening of a large number of participants an arduous undertaking.

An alternative to the interview-based procedures of the PCL-R and its derivatives is the use of self-report measures of psychopathy. Self-report measures afford a methodology that allows researchers to assess large numbers of participants in a relatively short period of time without the use of file or collateral data. Traditionally, self-report measures of psychopathy-like traits have suffered from two problems (Hart, Hare, & Harpur, 1992): (a) many of these measures, such as Scale 4 (*Pd*) of the MMPI and the Socialization (*So*) scale of the California Psychological Inventory (Gough, 1969), have measured the social deviance component of psychopathy rather than the callous, remorseless, and selfish use of others (Harpur et al., 1989); and (b) self-report scales are susceptible to malingering, or socially desirable responding that may be particularly problematic for a group that is defined in part by lying and deceit.

In response to these problems, self-report scales specifically for psychopathy have been developed (Hare, 1985; Levenson, Kiehl, & Fitzpatrick, 1995; Lilienfeld & Andrews, 1996). The newest incarnations of these self-report psychopathy scales have been developed to assess the core personality components of psychopathy and not just the antisocial aspects. Although evidence for the validity of such scales is beginning to accumulate (Hare, 1985; Levenson et al., 1995; Lilienfeld & Andrews, 1996), more work is clearly required. For example, Hare's Self-Report Psychopathy scale (HSRP; Hare, 1985), a translation of the PCL-R into self-report form, has been used in a number of studies including the antisocial personality disorder field trials for the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed. [DSM-IV]; American Psychiatric Association, 1994; Widiger et al., 1996). Unfortunately, the HSRP is unidimensional rather than two-dimensional and is more strongly correlated with Factor 2 (deviant lifestyle) than with Factor 1 (the core personality traits)

of the PCL–R (Harpur et al., 1989). Similarly, the Psychopathic Personality Inventory (PPI; Lilienfeld & Andrews, 1996) has been found to relate in predicted ways to other self-report measures of psychopathy and personality, peer ratings, and structured interviews. Unfortunately, the PPI is still rather long (187 questions) and its factor structure does not map onto the factor structure of the PCL–R.

One self-report scale that assesses both components of psychopathy in a short period of time is Levenson's Self-Report Psychopathy Scale (LSRP; Levenson et al., 1995). This 26-item self-report psychopathy scale assesses both primary and secondary psychopathy. That is, it assesses a selfish, callous, uncaring, and manipulative orientation toward others as well as impulsivity, reactivity, and poor behavioral controls. The inventory was initially validated in a sample of 487 university students and a factor analysis of the items produced the hypothesized two-factor structure. Additional validation was provided in the form of predicted correlations between primary and secondary psychopathy and measures of antisocial action, disinhibition, and boredom susceptibility. Additionally, the two factors were differentially related to a measure of trait anxiety; specifically, scores on Factor 2, but not on Factor 1, were related to scores of trait anxiety.

As is the case for all of the self-report inventories, the validation of the LSRP is far from complete. For instance, the demonstrated external correlates of the LSRP include only minor deviant behaviors, such as cheating on exams, vandalism, and stealing. Because psychopathy is a disorder characterized by egregious violations of societal norms and the rights of others, it is imperative to confirm that elevated scores on the LSRP are associated with higher probabilities of committing serious antisocial acts. Similarly, psychopathy as defined by the PCL–R is associated with deficits in a variety of performance tasks; however, to our knowledge, no self-report inventory has been examined in relation to such tasks. Additionally, the current support for the LSRP is demonstrated completely by its relations to other self-report inventories. Finally, the previous research (Levenson et al., 1995) yielded little in the way of differential validity for the two subscales, perhaps due to the reliance on a small number of scales assessing a limited range of personality traits (e.g., sensation seeking). If one advantage of the LSRP is that it assesses both factors of psychopathy, these factors as measured by the LSRP must be demonstrated to have divergent relations to other personality factors, such as conscientiousness and neuroticism, similar to the divergent relations of the PCL–R. Results from studies that use self-report inventories to validate other self-report inventories may overestimate the true relations because of shared methods or response sets.

The research reported here attempts to replicate and extend the support for the LSRP in four areas: (a) by replicating the factor structure, (b) by relating the LSRP to serious antisocial behavior, (c) by establishing the convergent and divergent relations of the LSRP with traditional personality traits, and (d) by demonstrating relations between the LSRP and tasks assessing response modulation. In Study 1, we attempt to replicate, in a much larger sample of male and female undergraduates,

the factor structure obtained by Levenson et al. (1995). If a two-factor structure similar to the one they identified is found to underlie scores on the LSRP, this suggests the LSRP assesses two separable but related aspects of psychopathy. In addition, we plan to extend the external behavioral correlates of the LSRP to serious, arrestable antisocial acts. To the extent that the LSRP is a valid measure of psychopathy, high scorers on the LSRP should commit more serious, arrestable offenses than low scorers.

An additional objective of the first study is to demonstrate the differential relations of the LSRP and its component factors to traditional personality traits. Widiger and Lynam (1998) rejected the notion that psychopathy is a categorical entity and proposed instead that it represents an extreme variant of normal personality styles. In addition, they proposed that both of Hare's factors represent distinct constellations of personality traits that can be measured using the Five Factor Model of personality (McCrae & Costa, 1990), rather than one personality component and one behavioral component. Specifically, they believed that both factors reflect a high level of antagonism, and that this shared component contributes to the high correlation between the factors. However, whereas Factor 1 is composed primarily of antagonism with small doses of low neuroticism and introversion, the items on Factor 2 represent a mixture of antagonism, low conscientiousness, and small amounts of high neuroticism and extraversion. Some empirical work is consistent with this description. For example, Harpur, Hart, and Hare (1994) found, in a combined sample of students and inmates, that PCL-R Factor 1 scores were negatively related to Agreeableness, whereas Factor 2 scores were negatively related to both Agreeableness and Conscientiousness.

In the second study, we move beyond merely demonstrating intercorrelations among self-report inventories. In an effort to provide validation of the LSRP using a methodology other than self-report, we examine the relations between the LSRP and two performance measures shown to distinguish between PCL-R-defined psychopaths and nonpsychopaths (Newman & Kosson, 1986; Newman, Patterson, Howland, & Nichols, 1990; Newman & Schmitt, 1998). These two performance measures assess elements of response modulation, a process hypothesized to be deficient in psychopathy. If the LSRP is a reliable and valid measure of psychopathy then we should find that high scorers, like high scorers on the PCL-R, are deficient in response modulation.

## STUDY 1

### Method

#### *Sample*

The participants in the first study were 1,958 undergraduate men and women enrolled in introductory psychology courses at a large southeastern university. Of

those who provided information on their sex, 1,191 were women and 655 were men.

### *Procedure*

All participants completed a battery of self-report instruments at one sitting during the first 2 weeks of class. All participants completed the LSRP (Levenson et al., 1995), approximately 60% of the sample ( $n = 1,219$ ) completed the Antisocial Behavior Inventory, and the remaining 40% ( $n = 739$ ) completed the Big Five Inventory (BFI; John, 1995), which assesses the personality dimensions of Extraversion, Neuroticism, Agreeableness, Conscientiousness, and Openness to Experience.

### *Measures*

**LSRP.** The LSRP consists of 26 items, answered on a scale from 1 (*strongly disagree*) to 4 (*strongly agree*), designed to assess similar domains as the PCL (Hare, 1985). The first domain refers to a callous, manipulative, and selfish use of others (e.g., “Success is based on survival of the fittest; I am not concerned about the losers” and “For me, what’s right is whatever I can get away with”). The second domain is concerned with impulsivity and poor behavioral controls (e.g., “I find myself in the same kinds of trouble, time after time” and “I am often bored”).

**Antisocial Behavior Inventory.** The Antisocial Behavior Inventory is a self-reported delinquency measure. It asks respondents, for each of 11 specific acts or behaviors, whether they have ever committed the act, when they first committed the act, and how many times they have committed the act in the last 12 months. Four questions ask about alcohol and drug use (marijuana, cocaine, and psychedelics); the remaining 7 questions ask about relatively serious delinquent acts (taking a car, stealing something worth more than \$50, physical fighting, attacking with a weapon, hurting someone badly, strong-arming, and breaking and entering). Self-report measures of delinquency have been shown to have strong psychometric properties (for a review, see Hirschi, Hindelang, & Weiss, 1980). For example, test–retest reliabilities for periods between 2 weeks and 6 months range from .75 to .98, internal consistency estimates range between .65 and .92, and criterion correlations between self-report and police or parent data hover near .50.

**BFI.** The BFI (John, 1995) is a 44-item inventory designed to assess the Big Five dimensions of personality. Items consist of characteristics that may or may not



apply to participants. Participants are asked to indicate how much they agree that a given characteristic applies to them; responses range from 1 (*disagree strongly*) to 5 (*agree strongly*). The BFI assesses the domains of Extraversion (e.g., I see myself as someone who is talkative), Neuroticism (e.g., I see myself as someone who can be tense), Openness to Experience (e.g., I see myself as someone who is curious about many different things), Agreeableness (e.g., I see myself as someone who is considerate and kind to almost everyone), and Conscientiousness (e.g., I see myself as someone who can be somewhat careless). The BFI has a robust five-factor structure and its domain scores show high internal consistency (John, 1995) with alpha coefficients ranging from .79 for Agreeableness and Conscientiousness to .88 for Extraversion.

## Results and Discussion

As expected, even within this undergraduate population, endorsement rates on the LSRP were relatively high. The percentages of participants responding *agree somewhat* or *agree strongly* ranged from 9.8% for “I have been in a lot of shouting matches with other people” to 54.3% for “Looking out for myself is my top priority.” Sixty-five percent of the items had endorsement rates (*agree somewhat* or *agree strongly*) greater than 20%; fully 96% of the items had endorsement rates greater than 10%. The mean endorsement rate across all items was 24%. Thus, as in Levenson et al.’s (1995) research, there seems to be sufficient endorsement to assume adequate representation of psychopathic attributes and to allow interpretation of the results.

### Confirmatory Factor Analyses

Confirmatory factor analyses were used to test the adequacy of the previously identified two-factor structure of the LSRP. This analysis proceeded in two steps. First, the model was examined using both men and women. Second, the model was compared across men and women. The 1,852 participants with complete LSRP data were included in the first set of analyses. In the first analysis, the two factors were allowed to correlate and the model was estimated without any correlated errors of measurement. As can be seen in Table 1, this model fit the data rather poorly,  $\chi^2(298, N = 1,852) = 2,261$ , with a root mean square error of approximation (RMSEA) of 0.06 and a comparative fit index (CFI) of 0.798.<sup>1</sup> An examination of

<sup>1</sup>Hu and Bentler (1998) provided evidence that the CFI and RMSEA are among the most sensitive indicators of model misspecification, particularly in cases of misspecified factor loadings. Several authors have argued and provided evidence that an RMSEA of less than 0.05 is indicative of a close-fitting model (Browne & Cudeck, 1993; MacCallum, Browne, & Sugawara, 1996), as is a CFI above 0.90 (Bentler & Bonett, 1980).

TABLE 1  
Results of Confirmatory Factor Analyses

<i>Model</i>	<i>Model <math>\chi^2</math></i>	<i>df</i>	$\Delta \chi^2$	<i>Significance of Change</i>	<i>90% CI RMSEA</i>	<i>CFI</i>
Men and women together						
1. No error correlations	2,261	298			0.057–0.062	0.798
2. Model 1 with 17 error correlations	1,142	281	1,119, <i>df</i> = 17 (vs. 1)	.001	0.038–0.043	0.912
3. Model 2 with Item 26 on both factors	1,097	280	45, <i>df</i> = 1 (vs. 2)	.001	0.037–0.042	0.916
Men and women separately (two-group model)						
4. Constrained model	1,393	586			0.026–0.03	0.905
5. Unconstrained model	1,347	560	46, <i>df</i> = 26 (vs. 4)	.05	0.026–0.03	0.907
			33, <i>df</i> = 25 (vs. 6)	<i>ns</i>		
6. Mostly constrained model—Item 10 unconstrained	1,380	585	13, <i>df</i> = 1 (vs. 4)	.001	0.026–0.03	0.906

*Note.* The  $\Delta \chi^2$  column indexes the difference between nested models, the degrees of freedom for the test, and the number of the model being compared. CI = confidence interval; RMSEA = root mean square error of approximation; CFI = comparative fit index.

the modification indexes and item content, however, suggested that allowing several errors of measurement to correlate would substantially improve the fit of the model. To this end, 17 errors of measurement were allowed to correlate.<sup>2</sup> In each case, it was clear that the items shared content beyond that related to the underlying construct. When this revised model was estimated, the fit was significantly improved, change in  $\chi^2(17, N = 1,852) = 1,119, p < .001$ . In fact, this model fit the data rather well,  $\chi^2(281, N = 1,852) = 1,142$ , with a 90% confidence interval for the RMSEA ranging from 0.038 to 0.043 and a CFI of 0.912. The only modification to the factor structure suggested by the analysis was to allow Item 26 ("love is over-rated") to load on Factor 1 as well as on Factor 2. This modification resulted in an improved fit, change in  $\chi^2(1, N = 1,852) = 45, p < .001$ . The fit of this final model was excellent,  $\chi^2(280, N = 1,852) = 1,097$ , with a 90% confidence interval for the RMSEA ranging from 0.037 to 0.042 and a CFI of 0.916. Although not shown in Table 1, this two-factor model fit the data significantly better than a single-factor model, change from one- to two-factor model  $\chi^2(2, N = 1,852) = 451, p < .001$ .<sup>3</sup> In the final two-factor model, the two factors correlated quite highly ( $r = .60$ ); factor loadings from this final model are given in Table 2.

The second set of analyses used the 1,746 participants with complete LSRP and gender data. These analyses involved comparing the final two-factor model across gender in a simultaneous two-group analysis. In the initial model, factor loadings and the covariance between factors were constrained to be equal across gender. This model fit the data well,  $\chi^2(586, N = 1,746) = 1,393$ , with a 90% confidence interval for the RMSEA ranging from 0.026 to 0.030 and a CFI of 0.905. This model was then compared to a second model in which factor loadings and the covariance between the two factors were allowed to vary across gender; this second model also fit the data well,  $\chi^2(560, N = 1,746) = 1,347$ , with a 90% confidence interval for the RMSEA ranging from 0.026 to 0.030 and a CFI of 0.91. In fact, the fit of the second model was slightly but significantly better than the fit of the first model, change in  $\chi^2(26, N = 1,746) = 46, p < .05$ . Supplementary analyses revealed that the improvement in fit of the totally unconstrained model was due entirely to gender differences in the loading of Item 10 ("I often admire a really clever scam"). When the loading of this item was freed to vary and the other loadings and the covariance between factors were constrained to be equal across gender, there was no difference between the fully unconstrained and mostly constrained models, change in  $\chi^2(25, N = 1,746) = 33, n.s.$  This final model fit the data very well,  $\chi^2(585, N = 1,746) = 1,380$ , with a 90% confidence interval for the RMSEA rang-

<sup>2</sup>The correlated errors of measurement were as follows: Items 3 and 25, 2 and 23, 4 and 6, 9 and 10, 9 and 13, 14 and 24, 11 and 14, 11 and 24, 1 and 15, 17 and 19, 6 and 15, 5 and 21, 21 and 23, 23 and 24, 1 and 6, 12 and 13, 1 and 12. All correlations were greater than .11.

<sup>3</sup>In this case, the one- and two-factor models differ by 2 *df*, rather than by only 1, because Item 26 loads on both factors in the two-factor model.

TABLE 2  
LSRP Items and Factor Loadings From Confirmatory Factor Analysis

Item	LSRP Factor	
	1	2
1. Success is based on survival of the fittest; I am not concerned about the losers.	0.47 <sup>a</sup>	—
2. I quickly lose interest in the tasks I start.	—	0.47 <sup>a</sup>
3. When I get frustrated, I often “let off steam” by blowing my top.	—	0.38
4. My main purpose in life is getting as many goodies as I can.	0.59	—
5. Before I do anything, I carefully consider the possible consequences. <sup>b</sup>	—	0.34
6. Making a lot of money is my most important goal.	0.48	—
7. For me, what’s right is whatever I can get away with.	0.68	—
8. I am often bored.	—	0.46
9. I enjoy manipulating other people’s feelings.	0.53	—
10. I often admire a really clever scam.	0.56	—
11. I would be upset if my success came at someone else’s expense. <sup>b</sup>	0.33	—
12. People who are stupid enough to get ripped off usually deserve it.	0.47	—
13. I tell other people what they want to hear so that they will do what I want them to do.	0.59	—
14. I feel bad if my words or actions cause someone else to feel emotional pain. <sup>b</sup>	0.36	—
15. Looking out for myself is my top priority.	0.43	—
16. Most of my problems are due to the fact that other people just don’t understand me.	—	0.51
17. Cheating is not justified because it is unfair to others. <sup>b</sup>	0.34	—
18. I find myself in the same kinds of trouble, time after time.	—	0.53
19. Even if I were trying to sell something, I wouldn’t lie about it. <sup>b</sup>	0.41	—
20. In today’s world, I feel justified in doing anything I can get away with to succeed.	0.73	—
21. I don’t plan anything very far in advance.	—	0.27
22. I let others worry about higher values, my main concern is with the bottom line.	0.50	—
23. I find that I am able to pursue one goal for a long time. <sup>b</sup>	—	0.32
24. I make a point of trying not to hurt others in pursuit of my goals. <sup>b</sup>	0.40	—
25. I have been in a lot of shouting matches with other people.	—	0.43
26. Love is overrated.	0.24	0.11

Note. LSRP = Levenson’s Self-Report Psychopathy Scale.

<sup>a</sup>Fixed. <sup>b</sup>Item was reverse scored.

ing from 0.026 to 0.030 and a CFI of 0.91, suggesting that the factor structure is almost invariant across gender. The only exception to this invariance was that Item 10 loaded more strongly on Factor 1 for men than for women.

For future analyses, scales were formed for each factor by unit weighting the items that loaded on the factor. Because Item 26 loaded significantly on both factors, it was not included in either scale. The internal consistencies of both scales were acceptable ( $\alpha$ s = .84 and .68 for Scale 1 and Scale 2, respectively). The correlation between scale scores was moderate ( $r = .43$ ).

*Relations With Other Variables*

To further examine the construct validity of the LSRP in this sample, we examined the relations between the LSRP (total score and the two scale scores) and lifetime and past-year serious delinquency and drug use, the typical pattern of alcohol use in the past year, and a history of arrest. These correlations are presented in Table 3. As predicted, all correlations were statistically significant. Persons who scored high on the LSRP, compared to those who scored low, used a greater variety of drugs (marijuana, cocaine, and psychedelics) in their lifetimes, as well as in the past year. These persons were also more likely to report a heavy drinking pattern in the last year. Additionally, persons scoring high on the LSRP, compared to those scoring low, reported committing a greater variety of serious antisocial acts (e.g., taken a car, hurt someone badly enough to need bandages or a doctor, and broken into a building) across their lifetimes and within the last year. Finally, per-

TABLE 3  
Correlations Between LSRP Scores and Alcohol and Drug Use and  
Serious Antisocial Behavior

	<i>LSRP Total</i>	<i>LSRP Scale 1</i>	<i>LSRP Scale 2</i>
Variety of illegal drug use			
Lifetime	.25	.19	.25
Past year <sup>a</sup>	.24	.18	.25
Alcohol use pattern in past year	.28	.25	.22
Variety of serious antisocial behavior			
Lifetime	.23/.31 <sup>b</sup>	.32	.20/.32 <sup>b</sup>
Past year	.31	.28	.18/.26 <sup>b</sup>
Ever arrested	.19	.15	.18

*Note.* LSRP = Levenson's Self-Report Psychopathy Scale. All correlations are significant at  $p < .001$ .  $N$ s = 784–842 for each correlation. The drug use and antisocial behavior scales are counts of the number of different acts in which the participant has engaged. The alcohol use variable ranges from 1 (*less than once a month*) to 8 (*almost every day, usually in large amounts*).

<sup>a</sup>Correlations of variable with LSRP Scale 1 and Scale 2 are significantly different. <sup>b</sup>Correlations are significantly different for men and women. In these cases, the correlation for men appears first.

TABLE 4  
Correlations Between LSRP Scores and Big Five Inventory (BFI) Scales

	<i>LSRP Total</i>	<i>LSRP Scale 1</i>	<i>LSRP Scale 2</i>
BFI Extraversion	-.12**	-.08*	-.15***
BFI Neuroticism <sup>a</sup>	.12**	-.05	.37***
BFI Openness	-.07*	-.06	-.06
BFI Agreeableness	-.48***	-.41***	-.42***
BFI Conscientiousness <sup>a</sup>	-.39***	-.20***	-.59***

*Note.* LSRP = Levenson's Self-Report Psychopathy Scale. *N*s = 658, 673, and 676, for LSRP total, LSRP Scale 1, and LSRP Scale 2, respectively.

<sup>a</sup>Correlations of variable with LSRP Scale 1 and Scale 2 are significantly different.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

sons scoring high on the LSRP were more likely to report having been arrested in their lifetimes. The relation between the past-year variety of drug use and scores on LSRP Scale 2 was stronger than the relation to scores on Scale 1,  $t(840) = 2.07$ ,  $p < .05$ ; there were no other significant differences between LSRP Scales 1 and 2. Further, the relations between scores on LSRP Scale 2 and the antisocial behavior variables,  $t_s(812) = 2.85$  and  $2.62$ ,  $ps < .01$  for ever and past year, and between scores on the LSRP total score and variety of lifetime antisocial behavior,  $t(765) = 2.11$ ,  $p < .05$  were stronger for women than for men.

The final objective of the first study was to demonstrate that the LSRP and its two scales correlated differentially with traditional personality variables. As can be seen in Table 4, the predicted relations with the BFI scales were obtained. Following Widiger and Lynam (1998), scores on the LSRP total scale were most strongly related to Agreeableness and Conscientiousness. In addition, the correlations with the BFI support the divergent validity of the two scales. As predicted, Scale 1 was most strongly correlated with Agreeableness. On the other hand, Scale 2 was correlated significantly with Agreeableness, Conscientiousness, and Neuroticism. Importantly, Scale 2 was significantly more strongly correlated with Conscientiousness than was Scale 1,  $t(675) = 11.74$ ,  $p < .001$ . In addition, whereas Scale 2 was positively correlated with Neuroticism, Scale 1 was related nonsignificantly negatively with Neuroticism; the difference between these correlations was significant,  $t(675) = 11.04$ ,  $p < .001$ . This pattern of results supports the conceptualization of Scale 2 as reflecting a personality constellation that reflects high impulsivity (low conscientiousness), low agreeableness, and an elevated level of negative affect.

## STUDY 2

Previous efforts to validate self-reported psychopathy measures (Levenson et al., 1995; Lilienfeld & Andrews, 1996) have relied almost exclusively on other self-

reports (either questionnaires or interviews) as validation measures. This was true in the Levenson et al. (1995) study, as well as in the validation study of the PPI by Lilienfeld and Andrews (1996), although these authors also included peer reports. This overreliance on self-report instruments is problematic for several reasons. Predictor–criterion (or item) overlap may inflate observed relations, as may the use of similar methods. There is also the problem with potential response sets. Finally, an individual's implicit theory about personality or the relation between personality and behavior may also distort our picture of the true state of affairs.

An alternative to the use of self-report measures is the use of performance measures or psychophysiological indexes known to discriminate PCL-defined psychopaths from nonpsychopaths. Psychopathic offenders differ from nonpsychopathic offenders in terms of psychophysiology (see Raine, 1993), response modulation (Newman & Kosson, 1986; Newman et al., 1990; Newman & Schmitt, 1998), and linguistic processing (Jutai, Hare, & Connolly, 1987). One of the most robust findings in the literature is the psychopathic offender's poor passive avoidance—the failure to inhibit or modify behavior in the face of negative consequences. Newman and colleagues (Newman & Kosson, 1986; Newman et al., 1990; Newman & Schmitt, 1998) have worked to identify the conditions under which deficits in passive avoidance are most likely to be observed; to this end, they have developed several computerized performance tasks designed to assess passive avoidance. One such task, shown to discriminate between PCL–R-defined psychopaths and nonpsychopaths, is a successive go/no-go discrimination task in which an individual must respond to certain stimuli to win money and withhold a response from other stimuli to avoid losing money. Psychopathic offenders, compared to nonpsychopathic offenders, commit more errors of commission on this task, especially following the establishment of a dominant response set for reward.

Although Belmore and Quinsey (1994) used a similar task to validate their approach for recruiting psychopaths from the community, no study to date has used these measures to validate self-report inventories. This oversight is unfortunate because tasks such as these can provide strong support for the validity of psychopathy assessments. First, these tasks have been shown to differentiate psychopathic from nonpsychopathic offenders; thus, they can be used as validation measures. Second, these tasks are not subject to the criticisms of self-report measures mentioned earlier. There is no item overlap, there should be no method correlations, and it is difficult to imagine that people's implicit theories will influence the results. In recognition of the limitations of using self-reports as validation measures and the potential contribution of performance tasks, a second study was undertaken.

In this study, we attempted to examine the relation between scores on the LSRP and two computer tasks developed by Newman and colleagues that have shown the ability to discriminate between reliably defined psychopathic and nonpsy-

chopathic offenders. The first task, described earlier, is a straightforward measure of passive avoidance. The second task is designed to assess the automatic interruption of goal-directed behavior by cues for punishment. This task assesses the ease with which an association between a cue and punishment is built and the effect that the established cues have on behavior. Newman and colleagues (Newman & Wallace, 1993; Patterson & Newman, 1993) have suggested that the failure of punishment cues to automatically inhibit behavior may be at the heart of psychopaths' deficient passive avoidance. Newman and Wallace (1993) reported that psychopathic offenders are less likely to automatically interrupt their behavior in the presence of a cue previously associated with punishment than are non-psychopathic offenders. To the extent that the LSRP is a valid measure of psychopathy, high scorers on the LSRP should show a pattern of performance on the laboratory tasks that is similar to the one shown by PCL-R-defined psychopaths.

Additionally, we included an alternative self-report measure of psychopathy based on the PCL-R to allow for an examination of the convergent validity of the LSRP. This second self-report inventory was developed as a self-report version of the PCL (Hare, 1985) and has been used as a validation measure in several other investigations of psychopathy measures (Forth et al., 1996; Lilienfeld & Andrews, 1996). To the extent that the LSRP is a reliable and valid measure of psychopathy, scores on the LSRP should correlate positively with scores on this alternative self-report measure of psychopathy.

## Method

### *Sample*

From 382 men who completed the LSRP during one of our screening sessions (reported on earlier), 70 White men were recruited to participate in this study. To obtain an approximately equal number of participants at various levels of psychopathy, these men were randomly selected from the top and bottom 45% of male scores on the first administration of the LSRP.

### *Procedure*

Each participant was contacted by telephone and asked if he would be interested in participating in a study in exchange for 1 hr of research credit and a chance to win approximately \$6. If the participant was interested, an appointment was made.

On the day of the study, each participant was greeted by an undergraduate research assistant and told that the purpose of the study was to investigate the rela-



tion between personality and task performance. Participants were informed that they would be completing several measures of personality and completing several computer tasks. Participants were also told that they would have the opportunity to win and lose money during the tasks, but that they would never risk losing any of their own money. During the course of the experiment, each participant completed two computer tasks, the LSRP, and the HSRP (Hare, 1985). All participants completed the computer tasks in counterbalanced order. Instructions for the computer tasks were presented on the computer monitor and read aloud. Following completion of the second computer task, participants completed the LSRP and the HSRP. At the end of the experiment, participants provided information to allow payment, were debriefed, were thanked for their participation, and were given a credit slip.

### *Measures*

In addition to completing the LSRP for a second time, participants also completed another self-report psychopathy scale.

**HSRP.** This 60-item scale was developed as a self-report version of the PCL. Each item is scored from 1 (*strongly disagree*) to 7 (*strongly agree*). The HSRP correlates moderately, around .60, with the PCL-R (Forth et al., 1996; Harpur et al., 1989) and has been used in previous validation studies of the PPI (Lilienfeld & Andrews, 1996) and the PCL-R:SV (Forth et al., 1996). In addition, Widiger et al. (1996) used the HSRP in the *DSM-IV* field trial for antisocial personality disorder.

### *Computer Tasks*

Two performance tasks developed by Newman and his colleagues were employed in this study. Both tasks were programmed using the Micro-Experimental Laboratory software (Schneider, 1995) and were administered using a Gateway computer (66 MHZ) and 15-in. monitor.

**Go/no-go task.** The go/no-go task (GNG; Newman & Kosson, 1986) is a successive go/no-go discrimination task with four positive stimuli (S+s) and four negative stimuli (S-s). The participant's task is to press a button whenever an S+ appears on the monitor and to inhibit responding (i.e., not press the button) whenever an S- appears. The participant must learn thorough trial and error which stimuli are S+s and which are S-s. Each correct response is rewarded with the presentation of \$0.10 and each incorrect response is punished with the loss of

\$0.10. There are no monetary consequences (or feedback) when the participant does not respond. All stimuli are two-digit numbers chosen so that no characteristic of the number is differentially associated with either the S–s or the S+s. Stimuli are presented for 3 sec or until the participant responds. All participants receive 84 trials. The first 4 trials serve as a pretreatment consisting of one presentation of each S+; these 4 trials are intended to establish a dominant response set for reward. The following 80 trials consist of 10 blocks of 8 trials; within each block, each of the eight stimuli appear once in random orders. The dependent variable is the total number of errors of omission and commission in the last 40 trials (presumably after all participants have learned which stimuli are S+ and which are S–).

**Q task.** The Q task (Newman & Wallace, 1993) consists of two phases. The first phase is designed to associate a stimulus with punishment and the withholding of a response. The first phase consists of 140 trials (with a 1-min rest period in the middle) in which a string of letters is presented on the computer screen. The letter Q appears in some of the strings, but not all. During this phase, participants are instructed to respond as quickly as possible to the string unless the letter Q is present in the string. If the letter Q is present, participants are not to respond. Participants receive \$0.01, \$0.03, or \$0.05 depending on how quickly they respond to Q-absent strings. If participants incorrectly respond to a Q-present string, they lose \$0.20. After 140 trials and a 1-min rest period, the second phase of the task begins, consisting of an additional 89 trials. In this phase, participants are presented with a four-element array and told to respond as quickly as possible unless a number appears in the array; the Q is now irrelevant to the task. Participants receive \$0.03, \$0.04, or \$0.05 depending on how quickly they respond to number-absent arrays and lose \$0.20 if they respond to number-present arrays. For the first 25 trials of this phase the Q does not appear. In the remaining 64 trials, however, the Q appears occasionally. Importantly, the Q appears on 16 number-absent trials. Because the effect is likely to be fleeting, the dependent variable is the difference in average response time for the first five Q-present trials minus the average response time for the first five Q-absent trials; thus, higher scores reflect more automatic pausing in the face of the Q. Newman and Wallace (1993) reported that nonpsychopathic individuals take longer to respond to Q-present trials than to Q-absent trials, presumably because the Q has become associated with punishment and automatically elicits a pause.

## Results and Discussion

Test–retest reliability of the LSRP across an average of 8 weeks was quite high ( $r = .83, p < .01$ ). Similarly, the convergent validity of the LSRP with the HSRP was

moderately high ( $r_s = .64, .66$ , and  $.42$ ,  $ps < .001$  for the LSRP total scale, Scale 1, and Scale 2, respectively). Furthermore, the HSRP was related to scores on Scale 1 significantly more strongly than to scores on Scale 2,  $t(67) = 2.75$ ,  $p < .01$ .

Scores on the LSRP were examined in relation to GNG errors of commission and omission from the second half of trials and the average difference in reaction times between the first five Q-present and Q-absent trials in the second phase of the Q task. As can be seen in Table 5, the expected relations were obtained. Scores on the LSRP were significantly associated with errors of commission but not with errors of omission (the correlations were marginally significantly different,  $p < .10$ ). Thus, participants who scored high on the LSRP committed more errors of commission than participants who scored low. This was true for the LSRP total score and each of the scale scores, although the relation between Scale 2 scores and errors of commission was only marginally significant. None of the relations between LSRP scores and errors of omission were significant. Similarly, total scores on the LSRP were significantly related to the difference in reaction times for Q-present and Q-absent trials, such that low scorers on the LSRP tended to respond more slowly on the Q-present than on the Q-absent trials than high scorers. The correlations involving the separate LSRP scales were marginally significant ( $ps < .07$ ). Thus, individuals high in psychopathy as assessed by the LSRP are less likely to inhibit responding in the presence of stimuli previously associated with punishment. Importantly, the size of the relations between the LSRP and task performance reported here are similar to those observed in previous studies using PCL-defined psychopaths and extreme groups. The weighted average correlation, transformed from the reported  $t$  values, for three studies (Newman & Kosson, 1986; Newman et al., 1990; Newman & Schmitt, 1998) examining the GNG performance of psychopaths and nonpsychopaths was 0.28, which is quite similar to the 0.24 correlation reported here. Although not presented in Table 5, the correlations between scores on the HSRP and GNG commission errors ( $r = .11$ ) and between scores on the HSRP and the difference in reaction times for Q-present and Q-absent trials ( $r = .06$ ) were not significant.

TABLE 5  
Correlations Between LSRP Scores and Task Performance

	<i>Time 2 Scores</i>		
	<i>LSRP Total</i>	<i>LSRP Scale 1</i>	<i>LSRP Scale 2</i>
GNG commission errors	.24**	.23**	.18*
GNG omission errors	-.04	-.08	.02
Q-present minus Q-absent reaction time	-.22**	-.20*	-.19*

*Note.*  $N = 70$ . LSRP = Levenson's Self-Report Psychopathy Scale; GNG = go/no-go task.

\* $p < .07$ , one-tailed. \*\* $p < .05$ , one-tailed.

## GENERAL DISCUSSION

The two studies reported here provide excellent evidence for the validity of the LSRP as a self-report measure of psychopathy. Psychometrically, the LSRP is sound, showing excellent reliability in terms of internal consistency (from Study 1) and 2-month test–retest reliability (from Study 2). The previously specified two-factor structure fit the data very well; importantly, the factor structure of the LSRP was virtually equivalent across men and women. Additionally, the LSRP bore predicted relations to serious antisocial behavior and common dimensions of personality. Finally, in the first study to use task performance to validate self-reported psychopathy, we found that high scorers on the LSRP were less able to inhibit responding in the face of competing reward and punishment contingencies and were less likely to build or activate automatic associations between a cue and punishment. That is, self-reported psychopaths were found to show deficient performance on two tasks designed to assess deficits in response modulation—a process that some authors believe to be the pathogenic process in psychopathy (Patterson & Newman, 1993). Additionally, but importantly, the LSRP is quite short and can be used to screen large numbers of participants in short periods of time. These considerations would seem to recommend the LSRP for use in studies of noninstitutionalized psychopaths.

This is not to say, however, that the LSRP is without limitations. The “love is overrated” item loaded weakly on both LSRP factors. Future research would be best served by dropping this item. Additionally, Scale 1 of the LSRP failed to correlate negatively with Neuroticism as would be expected based on several conceptions of psychopathy (Lykken, 1957; Patrick, 1994). This may be due to an absence of items explicitly assessing anxiety—a shortcoming shared by the PCL–R (Lilienfeld, 1994). Future work with the LSRP might add items that remedy this shortcoming (e.g., “I find it useless to worry about things,” “I don’t scare easily,” or “Fear and worry are for suckers”).

Besides merely recommending the LSRP for future research on noninstitutionalized populations, the current results have implications for our understanding of psychopathy more generally. First, results from the confirmatory factor analyses and the differential relations between the LSRP scales and common dimensions of personality support the distinction drawn previously in institutional samples using the PCL–R between the two components of psychopathy (Hare et al., 1990; Harpur et al., 1989). Our results, however, do not support the previous interpretation given to that structure in which the first factor is said to refer to a constellation of personality traits dealing with the selfish, callous, and remorseless use of others, whereas the second factor refers to an antisocial and socially deviant lifestyle. Rather, the current results support Widiger and Lynam’s (1998) reinterpretation of the two factors as representing distinct constellations of personality traits, rather than one personality component and one behavioral component. In line with Widiger and Lynam’s hypotheses,

we found that Factor 1 assesses traits primarily related to low Agreeableness, whereas Factor 2 assesses traits related to low Agreeableness, low Conscientiousness, and high Neuroticism. Future research might examine Widiger and Lynam's additional suggestions that the diversity in research perspectives on psychopathy may reflect different investigators' focuses on different facets of personality. For instance, theories that posit poor fear conditioning in psychopaths (Lykken, 1957) may be focusing on the element of low Neuroticism, whereas those that focus on deficits in response modulation (Patterson & Newman, 1993) may be focusing on the element of low Conscientiousness.

Second, the results reported here support the hypothesis that deficits in response modulation may be part of the core deficit in psychopathy. Previous research (Newman & Kosson, 1986; Newman et al., 1990; Newman & Schmitt, 1998; Newman & Wallace, 1993) has demonstrated the relation between this deficit and psychopathy in incarcerated populations. Unfortunately, these studies confound psychopathy with the effects of repeated incarcerations or other sequelae associated with an antisocial lifestyle (e.g., loss of legitimate opportunity). This study replicated the relation of psychopathy and response modulation deficits in a younger, nonincarcerated population. These results suggest that this deficit may be pathogenic to psychopathy and is not the result of a lifetime of negative effects accumulated by psychopathic individuals. These response modulation deficits involve a difficulty in switching from or suspending a dominant response to assimilate feedback from the environment. Once the psychopathic offender is oriented toward reward, he or she has difficulty changing behavior in the face of changing contingencies. Future research should examine other putative pathogenic processes in noninstitutionalized samples.

Third, these results contribute to the accumulating but still small literature on female psychopathy. In our data, the two-factor structure of the LSRP was virtually identical among men and women, suggesting that psychopathy is manifest in similar ways for men and women. These results run somewhat counter to results obtained by Salekin, Rogers, and Sewell (1997) using the PCL-R. In a sample of female offenders, these authors found a substantially different factor structure for women than has been previously found for male psychopathy. However, the sample used by Salekin et al. was relatively small ( $N = 103$ ) and quite select. Additionally, there were few differences in our data between men and women in the relations between LSRP scores and other measures, suggesting that psychopathy has similar meaning across gender. These findings are consistent with previous research (e.g., Rutherford, Cacciola, Alterman, & McKay, 1996; Salekin et al., 1997). In general, these results suggest that psychopathy may be as important among women as it is among men.

Finally, the results of this study, along with those reported previously (Levenson et al., 1995; Lilienfeld & Andrews, 1996), suggest that the traditional distrust of self-report inventories of psychopathy may not be warranted, espe-

cially when it comes to studying noninstitutionalized psychopaths. These newer inventories are concerned with assessing all aspects of psychopathy and include personality components, not only the socially deviant component. Furthermore, it can be argued that the pressures to present oneself in a certain light are much reduced outside of prisons where life decisions will not be made for an individual on the basis of his or her responses to certain instruments. A third concern, that previous self-report inventories tended not to identify the same individuals as did interview-based approaches (Hare, 1985), remains to be examined. To the extent that the research reported here has served to re-create, around the LSRP, the nomological net of PCL-R-defined psychopathy, we can be relatively hopeful about this last issue. In fact, Forth et al. (1996) found relatively strong correlations (around .60) between scores on the PCL-R:SV and the self-report psychopathy scale developed by Hare and colleagues and used as a validation measure in this study.

In sum, the LSRP appears to be both a reliable and valid means of assessing psychopathy in noninstitutionalized populations. Future researchers might profitably employ this instrument to better ascertain and study so-called successful psychopaths. These individuals, presumed to have the psychopathic personality configuration without the concomitant antisocial behavior, may provide important information about the relation between psychopathy and antisocial behavior, as well as the role of risk and protective factors in the development of the disorder.

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